## COURSE OF STUDY

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FOR THE

## KANSAS NORMAL INSTITUTES.

1882.

#### ISSUED BY THE

## STATE BOARD OF EDUCATION,

AS THE OFFICIAL GUIDE OF CONDUCTORS AND

INSTRUCTORS, AND AS A HAND BOOK

FOR TEACHERS.

TOPEKA, KANSAS: GEO. W. CRANE & CO., PRINTERS AND PUBLISHERS, 1882. GEO. W. CRANE & CO.

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## INTRODUCTION.

The Course of Study issued by the State Board of Education is accepted and understood, by express condition and agreement made prior to the granting of institute certificates, to be the official and authoritative guide of conductors and instructors in the organization and management of Kansas institutes.

1. As to the subject matter of instruction, it is understood to exclude the organization of classes in any branch of study not named therein or upon any other than the outline of lessons given; to forbid the combining of classes; and to require as full discussion as possible of the several lessons on the days prescribed therefor.

2. As to the classification of the institute it is recommended that for three or more instructors there be formed two classes each in geography, grammar, arithmetic and history, the class work differing chiefly in the fulness of discussion; and that for two instructors, no divisions be made except as named in the course. It is useless to attempt to make a division or arrange a programme that will give every student an opportunity to take all the studies in the course; the programme should wisely provide for the best disposition of the time of the instructors—the accommodation of individuals being a secondary matter.

3. It is understood that the Conductor is the responsible head of the institute, having control of its classification, order, and discipline.



## PREPARATORY COURSE.

#### ORTHOEPY AND ORTHOGRAPHY.

- I. The organs of speech—name, location, description and func-
- II. Define orthoepy, and an elementary sound. Classify the elementary sounds of our language into tonics, subtonics and atonics.
- III. Give the sounds and discritical marks of a, or ald rill. Mark the sounds of a in a list of words given by the teacher.
- IV. The sounds and diacritical marks of e and i. Oral drill, and list of words to be marked.
- V. The sounds and discritical marks of o and oo. Oral drill, and words marked.
- VI. The sounds and diacritical marks of u and y. Diphthongal sounds. Oral drill, and list of words to be marked.
  - VII. Written lesson of twenty words, vowels marked.
- VIII. Make a table illustrating the vowel sounds of our language. Oral drill on the table.
- IX. All other sounds (those represented by consonants) classified as subvocals or subtonics, and aspirates or atonics, with the notation of each sound. Oril drill, and list of words to be marked.
- X. The cognate consonant sounds of our language, and their notation.
- Note.—From III. to  $X_{\cdot}$ , inclusive, should be prepared by each member and reviewed by Instructor.
- XI. Classification of words based on (a) their formation, (b) the number of syllables of which they are composed. Accent. Require numerous illustrations of each.
- XII. Orthographic parsing of the following words, both oral and written: Straight, finance, compromise, concert, exaggerate, indissolubles or others.
- Model.—Man is a simple, primitive monosyllable. Spelled orthographically (naming the letters), m,a,n, and phonically (enunciating the sound), m,a,n—m is a consonant, subvocal, labial; z is a short vowel sound; n is a consonant, subvocal, palato-nasal.
- XIII. Rule for dropping final e when adding a suffix. Rule for doubling final consonants. Rule for final y.
- Norz.—In XIII., three divisions should be made of the class on the preceding day, each fivision to prepare numerous illustrations of one of the rules involved.

XIV. Define the terms root, prefix, and suffix, as applied to words. Bring to the class a list of words from which to show the meaning of at least ten prefixes in common use.

XV. Bring to the class a list of words from which to show the meaning of at least ten suffixes.

XVI. Analyze the following words, giving the root, prefix and suffix of each, and the meaning of each part: Amiable, emanate, superficially, intermit, conversation, purity and remittance.

XVII. An exercise in spelling a list of twenty words. The diacritical marks of ten of these words to be given. Papers exchanged and marked

Note.—XVII. may be used as an illustration of one method of teaching orthography to pupils in actual school work.

XVIII. Lesson upon use of dictionaries.

XIX. Illustrative spelling lesson by Instructor.

#### READING.

I. Position and carriage of the body. Sitting: Management of the body, the feet, hands, head and eyes; exercises in changing position. Standing: Two primary positions; study each carefully. Exercises in taking these positions, and changing from one to the other, by individual members of the class, and by the entire class in concert.

II. Class drill in taking and changing position; movements of the body for exercise; manner of taking position upon and leaving the rostrum, and of holding the book, Different members of the class should be required to take a correct position; criticism by teacher and students.

III. Class drill and exercises in breathing. Management of the lungs.

IV. Drill in vocalization. Note the change of position of the organs of speech in the production of different tones.

V. Review. Drill in position, breathing and vocalization.

VI. Articulation. Note the most common errors, illustrating with examples. Give the rules for pronouncing a, an, the, r and u. Select for study, with special reference to articulation, a lesson for the next recitation.

VII. Short class drill in position, breathing, and the articulation of difficult consonant combinations. Recitation of the lesson assigned the previous day. Criticism by teacher and students.

VIII. Emphasis. Outline the different kinds of emphasis, defining and giving numerous examples of each. Assign lesson for study.

IX. Recitation of lesson assigned the previous day. Require each member of the class to give illustrations of different kinds of emphasis.

X. Analyze the production to be read, showing: 1st., object of the production or why written; 2nd., the argument or the means used to accomplish the object.

XI. Inflection. Pitch. Kinds of each. Illustrate by examples.

XII. Force. Rate. Kinds and examples of each.

XIII. Quality—how divided. Give examples showing the styles of composition to which each is adapted.

XIV. Gesture. Significance of different guestures. Members of the class to bring selections for the purpose of illustration.

XV. Review of the week's work.

XVI. Kind and amount of work to be given to class while in the first reader; rate of progress; sentence-making from pictures; copying on slate and blackboard; tests which should govern promotion, etc.

XVII. Qualifications necessary to enter second reader. Third reader. Kind and amount of preparation for class exercises in each. Objects sought in each.

XVIII. Discuss fourth reader, and fifth reader after the outline given in XVII.

XIX, Each member of the class to present an outline of what he thinks should be studied in preparing a lesson in advanced reading. Discussion of outline.

#### PENMANSHIP.

#### First Week.

I. 1st. Materials: Paper, pens, ink, etc. 2d. Position: Body, hands, fingers, feet.

II. 1st. Movement exercises: Finger, forearm, whole-arm movements explained. 2d. Slants, first, second and third principles with first group of small letters, i, u, w.

III. 2d group: Principles, formation and analysis of n, m, x, v.

IV. 1st. Formation and analysis of o, a, e, c. 2d. Formation and analysis of r, s.

V. Formation, analysis and shading of t, d, p, q. Review of week's work.

#### Second Week.

VI. (a) Fourth principle. (b) Fourth principle letters ascending in groups of similar construction, l, b, h, k.

VII. Fourth principle letters in groups of similar construction descending, j, y, g, z, and combined ff.

VIII. Class drill in writing letters already analyzed, and making different combinations of the same.

IX. (a) Arabic figures. Analysis and formation in groups of similar construction. (b) Class drill in writing combinations of Arabic figures.

X. (a) Fifth principle: Analysis of O, E, D, C. (b) Class drill in writing combinations of the first five principles.

#### Third Week.

XI. Sixth principle: Analysis of and class drill in forming X, W, Q. U, V, Y, and J.

XII. Seventh principle: Analysis of and class drill in forming A, N, M, T, F.

XIII. Analysis and formation of II, K, S, G, L. Class drill.

XIV. Analysis and writing, P, B, R. Class drill in writing ledger heading.

XV. Correspondence: Epistolary and business forms, subscriptions, titles.

#### Fourth Week.

XVI. (a) Shading emphasized. (b) Review capitals.

XVII. Therough review of principles.

XVIII. Examination in penmanship on questions prepared by Instructor.

XIX. Consideration of questions from members of the class.

#### GEOGRAPHY.

I. Primary work. Lessons in place and direction illustrated by familar objects. Points of compass explained and illustrated. Location of familiar buildings and cities. Method of teaching map. Map of school room. Require neat work.

II. Lesson upon familiar products. Where do sugar, tea, coffee, salt, flour, calico, woolen cloths, hardware, books, &c., come from? What do we give in exchange for them? Develop in this way the idea of commerce and locate each country mentioned, upon the outline maps. In this way the pupils become thoroughly familiar with the map of the world and our commercial relations with its people. Tell or read stories of different people and their countries, always pointing out the locality upon the map of the world, and giving conversational lessons upon them afterward.

III. Provide class with a large sheet iron or zinc pan filled with sand, rocks and water. In this build a relief map of the connty and explain it to pupils, then have two of them reproduce it. Draw an outline map of county. Locate upon this map the principal creeks and rivers, noted mounds, mineral deposits, cities and towns and railroads, and write a complete descriptive geography of the county.

IV. County government. List of officers; their duties.

V. Government surveys. Define (a) initial point; (b) base line; (c) principal meridian; (d) correction lines.

VI. Show plan in writing of numbering townships and ranges; locate and give the number of principal meridian from which the ranges in Kansas are numbered; subdivide a township and a section, and show how and why fractional townships and sections occur.

VII. Draw a sectional map of the county in which the Institute is held, showing its municipal townships.

VIII. Build relief map of Kansas, and discuss the drainage.

IX. Draw an outline map of Kausas, locating the parallels of latitude, the meridians of longitude, and the principal rivers and railroads in the State. Locate upon the map our fifteen principal cities and towns, all the lines of railroads, the State University, State Agricultural College, State Normal School, the educational institutions sustained and controlled by churches, the State Institutions for the Blind, the Deaf and Dumb, and the Insane, the State Reform School, and the Penitentiary.

X. Outline in writing the resources of the State: (a) Valuable mineral deposits, their location, character, and the extent to which they have been developed; (b) Agricultural productions; (c) Stock raising; (d) Manufacturing.

 $\mathbf{X}\mathbf{I}$ . State government discussed. Three departments; duties of departments.

XII. Natural divisions of land and water should be taught according to the following order of work:—Built in sand, stone, and water. Definition developed by pupils and criticised. Definition written upon black-board with from three to six illustrations, which must be learned, correctly spelled, and located upon outline map by pupils. Definitions and illustrations neatly written in pupils' blank books. Review by topic, locating all illustrations upon outline map of the world. This gives pupils familiarity with map and general locations. Give an illustrative lesson upon a continent. Let the pupils write the definition and learn to spell and capitalize the names of the six continents, locating them upon the outline map. Same of peninsula, bay, and lake, using three illustrations from map, and requiring some interesting statement from the class about each one. If pupils become imbued with the idea that they are learning about people and their homes, the difficulties in teaching geography vanish.

XIII. Talk about the ocean and the waters which flow into it.

Where do the latter come from? Illustrate by boiling water over a spirit lamp, and condensing the steam on a tin platter. Short history of a shower of rain. Discuss influence of mountains upon climate.

XIV. United States. Build relief map in sand. Study climate and drainage. Locate noted productions as belonging to certain sections. Discuss the natural resources of these sections as the "why" of the productions.

XV. Outline map of United States, locating mountains and surface waters. This map should be prepared before recitation, and that hour used in the discussion and location of trade channels and centers.

XVI. Commercial relations of United States. Exports, imports, balance of trade. Government departments. Powers of departments.

XVII. Lesson upon change of seasons. Illustrate with globe and a lamp, also an apple with a slate pencil axis. Recite upon climatic circles. Equinox, solstice, and the "present degrees of temperature" in all zones at the date when the lesson is given.

XVIII. Outline for study of continent. Take any one of the six continents as an illustration or type, and discuss the value of this outline in school work:—Build relief map in sand. Position in hemispheres, with regard to zones and other continents. Boundaries. Rank in size, population and historical importance. Relief forms. Primary and secondary axis, plateaus and plains. Projections—peninsulas and capes. Indentations—seas, gulfs, bays, &c.

XIX. Outline for study of special section or country: Location. Climate. Resources. Capital. Metropolis (cause). Trade relations. Political importance. Government—form, efficiency. Education. Religion. People—race, characteristics. Take any country you please in illustration, or select two and compare them.

#### LANGUAGE-GRAMMAR.

[There are certain parts of formal grammar that the children in our schools should learn early, there are some forms of rhetorical composition with which children should become familiar almost as soon as they can use pencil or pen, but they should become acquainted with these things, not as scientific rhetoric or grammar, but simply as proper language. The historic method should be strictly followed, children should use forms that they hear, forms that they see, and obtain faculty by practice. The forms used in the school room should of course be the correct ones. The principles of grammar should come later. The teacher needs a full knowledge of grammar so that all necessary illustrations will be within his reach. That knowledge should be acquired not only by study of approved text books, but also by reading of standard authors. The foll-wing lessons are to aid teachers who have a fair text book knowledge in the way of presenting that knowledge to young children so that they may obtain facility in using—orally and in writing—correct forms of expression.]

I. Introductory. (1) Place in school work. (a) In the lower grades to be associated with the reading lesson. (b) In higher grades to have a separate place in the programme. (c) Should definitely begin while class is studying second reader. Should begin by incidental oral instruction earlier. (2) Two things necessary: (a) Mechanical training. (b) Mental preparation. The first of these includes rapid use of the hand and eye to be secured by time exercises in dictation and copying. It also includes a mechanical use of the mind. Knowledge of forms of expression-i e. a memory of them based on such an amount of iteration that no mental effort is felt; e. q., a child should write and speak an apple, an orange, so often that it will be impossible to write or say, a apple, or pronounce a-napple. The mental preparation consists in cultivating observation (home and school incidents), attention, memory, and as age advances, reflection. (3) In doing this work there are errors, to some of which we are all prone, which should be carefully avoided. (a) Having pupils write without thought. (b) Using unsuitable subjects. (c) Endeavoring to do too much. (d) Neglecting oral expression-confining attention to written forms-both should go together. (e) Making the work merely one of memory of forms. (f) Writing too infrequently. (g) Writing at home without teacher's help. (h) Making the exercise too formal. (i) Teaching grammar orally instead of giving language lessons. (j) Separating the language training from other school work. (k) Want of gradation in the school work.

II. (1) Yesterday's statement. When to begin? Throughout first reader, correct utterance should be taught by example all the time, and precept sometimes; e. g., phrase utterance of the particles should be cultivated, while the consequent tendency to errors of children should be carefully guarded against; i. e., always pronounce the articles and some other short words as if they were syllables of the word following, yet never allow an to stand for and. Use of the period and other terminal marks will also be learned then. Short sentences sometimes varied in form by children. (2) Definite beginning of composition lessons. Black-board lesson. (Paraphrasing.)

"As I was walking along the footpath, I fell on a piece of orange peel." "As I was passing along the sidewalk in Sixth street, I slipped down on some orange rind."

(a) Have both sentences read carefully in tone of conversation. Correct errors of expression. (b) Call attention to first difference. (c) Show the difference between walking and passing, sidewalk and footpath. (d) Ask for the other differences in words, and treat as above. (e) Does the second sentence tell exactly the same as the first? (f) Develop definitely the fact that it tells more by the words in Sixth street. (g) Find out what must be done to make the two sentences mean the same thing.

"As I was galloping down the ravine, the girth broke, and I fell off my horse." "As I was riding rapidly down a narrow valley, the saddle strap gave way, and I fell from the horse." Treat in second lesson (to young children) these sentences like the former. Then give short simple, exercises to develop this power of using other words for the same thing; e,g:

"We have a pretty little cat." "There is a nice kitten at our house." Give two such sentences to be changed by the pupils on the slate, brought up and read aloud, and corrected.

III. Second reader pupils should (a) be able to write with considerable readiness, and should (b) be trained in both oral and written expression of thought. (c) They should be encouraged to tell what they see and do, think and know. (d) Recite verses, maxims and select paragraphs, with reference (1) to the thought, (2 to the forms. (e) Use new words in sentences. (f) Fill blanks with proper words. (g) Write answers to questions, copying the questions and putting the answers in sentence form, with proper punctuation. (h) Talk about the reading lessons and the pictures in the reading book; about the

persons and facts in the reading and general lessons. (i) Write a specified number of sentences about the above. (j) Tell the story of the reading lesson after reading. (k) Reproduce stories told or read to them. Discussion of propositions. Institute class bring examples to illustrate  $\epsilon$  and g of second day's lesson.

IV. The following propositions include probably the most important suggestions on the teaching of language: How shall they be carried out? Illustrate and discuss, e. g., How will the class correct the prevalent error of using done for did? (1) In teaching language, all errors in pronunciation, spelling and grammar should be carefully corrected, and the proper forms impressed by frequent repetition. (2) Incidentally, the pupil should learn the proper forms of the article, and of the personal pronouns, the plurals of nouns, the tenses of verbs, and the principal parts of the irregular verbs most commonly in use.

V. Classify the pronouns, personal, relative, interrogative and adjective. Present various forms of tabular statements for grouping these.

VI. Discussion of working models prepared by members of the class for this and two following days—Pupils using third reader: Exercises training to mechanical facility: (a) Pupils copy daily a paragraph from their reading lessons, to be read from their slates in class. (b) Pupils write paragraphs from the dictation of the teacher, and correct them as to (1) spelling, (2) capitals, (3) punctuation, (4) spacing, (5) arrangement, (6) neatness. (c) Methods of correction—e.g., spelling should be corrected by having the words written correctly not less than three times. Gradually impress the idea that capitalization is part of written spelling.

superscription. Let the class bring two letters illustrating different forms of each.

VIII. Exercises securing facility of expression. (a) Pupils write several simple sentences and combine them into complex or compound sentences. (b) Expand short simple sentences into sentences with all the necessary parts modified by one or more adjuncts.

IX. (a) Short descriptions. Give special attention to proper use of adjectives, avoiding too many and inappropriate ones. (b) Narrations. Give models; e. g., add three sentences to the first given in

II. 2. (c) Lesson on composing:

1. Preparation. Conversation. Conversation. Reading. Refer back to I. 2, and emphasize these. Reflection.
2. Outline.
3. Writing. See lessons for next day.

4. Criticising. 5. Correcting and completing.

X. Model outlines. (a) Subject: The Kaw river. (1) Location, and course from source to mouth. (2) Size—Length, breadth, depth.

(3) Basin-Principal tributaries. (4) Valley-Broad or narrow, fertile or sterile, scenery, (5) Towns-Manufacturing or otherwise, (6) History-discovery, exploration. (7) Importance in development of State. (b) Same subject. Where is it? When was it found? By whom settled? Size of stream. Appearances of valley. Relation of its population and products to the development of the State. (c) Subject: The Trent affair. What was the Trent? What voyage was it making? Who were the passengers? Who was the American commander? What was done? What result followed in Britain, in Canada, in Nova Scotia? What was done with the prisoners? Why? Note that these outlines are not perfect as giving an exposé of the whole subject, but are such as might naturally be thought out by a pupil before beginning to write. They are to be distinguished from those which are intended for thorough reviews of subjects long studied. Observe how several items may be woven into one sentence or paragraph, e. q., those numbered 1 and 2, may be expressed thus: "The Kaw river, which is formed by the union of the Smoky Hill and the Republican, is 340 vards wide where it enters the Missouri at the east line of our State. It has a winding course of over 400 miles, but is only navigable at high water." Class to bring two outlines on subjects suggested by the instructor, such as "The decimal notation," "My native State," &c., &c. Criticise the outlines submitted.

XI. A composition on a subject previously assigned, to be accompanied by outline used, and oral statement of the process of preparation (IX. c 1). Let the instructor retain the papers, and afterwards return them carefully graded.

XII. Discuss errors arising from improper use of verb forms. (a) Write sentences containing the past tenses, and others the past participles, of run, lay, see, do, lie, draw, know, and climb. (b) Make a table of the principal parts of twenty-five of the most commonly used irregular verbs.

XIII. Discuss relation of (a) transitive and intransitive verbs, (compare lay and lie, set and sil,) (b) active and passive, how formed, (c) the verb be to the formation of voice and tense. Class to bring synopsis of passive verbs, or complete conjugation of some mood or moods of several verbs, as the instructor may appoint.

XIV. Distinction of syntax and etymology. Define and illustrate root words and derivatives. What is inflection? Find short definitions to justify the following grouping of the parts of speech; e. g., Articles point out nouns.

Noune, Verbs,
Pronouns,
Adjectives, Adverbs,
Prepositions,
Articles,
Conjunctions.
Interjections.

XV. (1) Etymology of (a) nouns, (properties, &c.,) (b) adjectives, (c) adverbs. Illustrations of inflections. Relation of adverbs to inflection of adjectives. (2) Use determines whether a word is one part of speech or another. Show that man, subject, and other words may be used as verbs or nouns. Class to bring sentences with same words used as nouns and adjectives, and make a list of ten prepositions that may be used as adverbs.

XVI. (1) Case: Syntactical or etymological, or both. Illustrate, Give the syntactical relation of the nominative and verb. Give the rule about this. Illustrate by the use of the words lovest, works, am, were and strike, in appropriate sentences. Note that syntactical agreement requires agreement of inflected forms, but that inflected forms are much fewer than they formerly were. (2) Show that groups of words are eqivalent sometimes to a single part of speech; e. g., "of the mountain"—"mountain's"—hence derive the use of the term element. Class to bring five sentences to illustrate. Define and distinguish parsing and analysis. Parse and analyze, "Early in the morning I went to the depot,"

XVII. Classify phrases as to (a) their structure, (b) their use. Make and analyze a simple sentence and a compound one, neither to have less than twelve words nor less than two phrase modifiers.

XVIII. Complex sentences. Define. Make three, to illustrate a clause modifying (a) the subject, (b) the predicate, (c) the object. Analyze a complex sentence to be given by the instructor.

XIX. (1) Can a diagram be made without understanding the analysis? Discuss forms of diagrams. May it be accepted as analysis? Yes or no, and why? Does the analysis depend on the comprehension of the passage, or vice versa? (2) The complete knowledge of the grammar of any passage of prose or poetry involves the ability (a) to read it aloud without bombast or tameness, but with expression and emphasis; (b) to parse any word or sentence in it; (c) to analyze any sentence; (d) to discuss etymologically special words such as ought, purlieu, dividend, &c.; (e) to give the roots of all the words not of Saxon origin; (f) to select, analyze and give root meaning of all words with suffixes or prefixes; (g) if the passage is poetry, to scan it; (h) to turn the entire passage into other words or phrases,

XX. Review.

#### ARITHMETIC.

I. The decimal notation: (1) Class drill on the principles governing the writing of decimal members, integral and fractional; (2) copious exercises in reading and writing; (3) show how beginners should be taught to read and write numbers, (a) from 1 to 1,000, (b) above 1.000.

II. (1) Review decimal scheme, adding notation and numeration of U. S. Money. (2) The Metric System: Linear, surface and cubic measures.

Nors.—The teacher should have a measure prepared one meter in length. This should be divided into decimeters and centimeters. Copies should be made by the members of the class, to be taken with them to their scho-la, and again copied by their students. Measurement should be made of articles in and about the school-room. The areas of walls, ceilings and floorsshould be computed in square meters; and the contents of rooms, boxes, etc., should be computed and expressed in cubic meters.

III. Analysis of processes of addition, subtraction, multiplication, division. Class drill.

IV. (1) Factoring: (α) Classes of factors. (b) Class drill. (c) Its use. (2) Greatest Common Divisor: (α) Analysis and class drill. (b) When taught. (c) What are its applications?

V. Least Common Multiple: (a) Analysis. (b) Class drill. (c)

When taught. (d) When used.

VI. Common Fractions: (a) Definitions and principles; (b) Reductions analyzed—(1) To higher terms; (2) To lower and lowest terms; (3) To improper fractions; (4) To integers or mixed members; (5) To similar fractions. (c) Class drill. (d) Value of each reduction. (e) Order of development.

VII. Addition and subtraction of common fractions. Find best method for each of these forms: (1) Numerators unity,  $\frac{1}{3} + \frac{1}{5}$  and  $\frac{1}{3} - \frac{1}{5}$ ; (2) Numerators the same,  $\frac{3}{5} + \frac{3}{17}$  and  $\frac{3}{5} - \frac{3}{17}$ ; (3) Denominators relatively prime,  $\frac{3}{4} + \frac{7}{13}$  and  $\frac{3}{4} - \frac{7}{13}$ ; (4) Denominators having a common fractor,  $\frac{3}{14} + \frac{5}{12}$  and  $\frac{13}{4} - \frac{5}{12}$ ; (5) One fraction reducible to the denomination of the other,  $\frac{5}{7} + \frac{1}{2} + \frac{7}{12}$ ; (6) Several fractions,  $\frac{7}{3} + \frac{3}{2} - \frac{5}{7} + \frac{3}{12}$ ; (7) Mixed numbers,  $\frac{23}{3} + 15\frac{1}{5}$ ,  $\frac{25\frac{3}{5}}{3} - 9\frac{1}{12}$ .

VIII. (a) Multiplication of common fractions: (1) To multiply a fraction; (2) To multiply by a fraction. Find and explain the shortest method for these illustrative forms: (1)  $\frac{1}{14} \times 7$ ; (2)  $\frac{4}{5} \times 7$ ; (3)  $\frac{7}{15} \times 8$ ; (4)  $25\frac{1}{2} \times 8$ ; (5)  $15 \times \frac{4}{5}$ ; (i)  $15 \times \frac{7}{12}$ ; (7)  $15 \times \frac{3}{7}$ ; (8)  $5 \times \frac{7}{13} \frac{3}{5}$ ; (9)  $295\frac{1}{13} \times \frac{3}{5}$ ; (10)  $713\frac{1}{2} \times 23\frac{1}{2}$ . (b) Division of common fractions; (1) To divide a fraction; (2) To divide by a fraction. Find and explain the shortest method for these illustrative forms: (1)  $\frac{1}{13} + 2$ ; (2)  $\frac{7}{13} + 4$ ; (3)  $\frac{1}{13} + 8$ ; (4)  $16 + \frac{4}{5}$ . (5)  $22 + \frac{1}{12}$ ; (6)  $48 + \frac{7}{5}$ ; (7)  $\frac{1}{12} + \frac{3}{13}$ ; (8)  $227\frac{2}{3} + 12$ ; (9)  $227\frac{2}{3} + \frac{7}{3}$ ; (10)  $227\frac{2}{3} + \frac{7}{3}$ .

IX. (1) Rapid review of decimal reductions. (2) Develop the principles and rules for multiplication and division of decimals. (3) Insist that different denominations of U. S. Money shall be treated strictly as parts of a decimal notation. Let multiplication and division of remainders be performed by addition of ciphers and removal of the point. Do not allow reduction of U. S. Money to be at all assimilated to the usual methods of reduction of compound denominate members. Numerous test problems should be given by the teacher for the members of the class to solve, verify and explain.

**X.** Percentage. Define percentage, base, rate, the percentage of a number, amount and difference. By the use of numerous practical problems for mental solution, develop the following formulas, in which B represents the base; R, the rate; P, the percentage; A, the amount; and D the difference:  $P=B\times R$ .  $R=\frac{p}{1-n}$ ,  $B=\frac{p}{1-n}$ ,  $B=\frac{p}{n}$ ,  $B=\frac{A}{1+n}$ 

NOTE.—About ten practical problems for solution and analysis should be suggested by the teacher for the next lesson. In addition to this work, each member of the class should bring to the recitation written solutions of problems of his own selection, illustrating each

of the five cases of percentage.

XI. (a) Examination and criticism of work assigned. (b) Solve and write the analysis of the following problems, and give the formula and rule under which each occurs: (1) A man is 64 years old; 12½ per cent. of his age is 33½ per cent. of the age of his oldest son; how old is his son? (2) 84 pounds are 7 per cent. of how many pounds? (3) What amount must an agent collect in order to pay over \$900 and retain 6½ per cent for collecting? (4) What number increased by 16½ per cent. of itself equals 329? (5) What per cent. is gained when an article costing \$5.50 is sold for \$7.00? (6) Logical outline of the applications of percentage that do not include the element of time, the instructor guiding to an emphasis of the cases that are useful in business.

XII. Simple interest. (1) Name and define all the terms employed. (2) Each student to present a note written on paper of the customary form and size, with solution of same on reverse side; criticisms of work by class. (3) Thorough class drill on one complete method of computing interest.

XIII. (1) Six per cent. method. (2) Twelve per cent. method. (3) Method by expressing time in one denomination. (4) Other important problems of interest. What is their value?

XIV. Partial payments. Solve and explain the following problems under the "United States rule:" (1) "Cleveland, Ohio, June 10, 1869. On demand, for value received, I promise to pay Zenas White, or order, five hundred and four dollars, (\$504), with interest at six per cent. per annum." On this note were the following indorsements: January 25, 1870, \$44; May 15, 1870, \$100; February 20, 1871, \$200. What was due July 5, 1871? (2) How much was due at the maturity on a note for \$2,150, dated September 20, 1873, to run two years, six months, on which the following payments were indorsed: December 15, 1873, \$75; February 4, 1874, \$200; April 3, 1874, \$150; July 1, 1874, \$500; December 16, 1874, \$1,000, the rate of interest being eight per cent?

XV. Banking, discounting notes, bank discount, true discount. Name and define all the terms used in each. Each member of the class to write a note, discount it by both methods, and give results. **Beview.** 

XVI. Business problems, to be illustrated by analysis of appropriate examples: (a) To multiply or divide by using aliquot parts; (b) To find the cost when the number of units and the price of any multiple or part of one unit is given; (c) To find the cost when the quantity is a compound number and the price of a unit of one denomination is given; (d) To find a number when a fractional part is given.

XVII. Partnership and equation of payments. Solve the following problems, and others to be suggested by the teacher: (1) Five families employ a teacher for 200 days for \$1000, agreeing to pay his salary in proportion to the number of pupils each sends. It was found that the first family sent 3 pupils 100 days each, the second 5 pupils 150 days, the third 4 pupils 175 days, the fourth 1 pupil 100 days, and the fifth 5 pupils 130 days. What should each family pay?

Dr.		JAMES CARROLLTON & Co.					
1876. May 7 " 20 July 9 Sept. 4 Dec. 30	Cash. " " " Mdse.	\$1000 700 2000 3.00 1500	1876. Mch. 6 Apr. 19 May 8 June 1 Sept. 30	Mdse., 2 mo. " 30 da. " 2 mo. " 3 mo. " 3 mo.	800 1950 4000		

What is the balance in the foregoing account, and when was it due? What would have been due from Carrollton & Co. had settlement been delayed till January 1, 1877, interest at 8 per cent.

XVIII. Review of such work as the instructor may direct; or analysis of the following problems, supplying other conditions if necessary: (1) How many yards of carpeting, which is \(^3\) of a yard wide, will it require to cover a floor 18 feet by 21 feet? (2) A tree 100 feet high breaks, one end remaining on the stump; how far from the ground did it break if the top struck the ground 30 feet from the root? (3) How many bu. of lime can be burnt at one time in a kiln 14 ft. long, 10 ft. wide, and 11 ft. deep? (4) What will it cost to shingle a roof 30 ft. long, and each slope 15 ft. in width. when shingles are worth \(^3\).50 per M., and putting them on costs 75 cts. per square? (5) I sold 4260 bu. of wheat at \(^3\)1.40 a bushel, and after deducting 2 per cent. for selling, and 3 per cent. for buying, invested the proceeds in coffee at 30 cts. a lb.; how much did I purchase?

XIX. (1) Each member to present a statement of the essential topics of arithmetic in the order in which they should be taught. (2) Discussion under guidance of the instructor for the purpose of emphasizing (a) the subject matter to be taught in Common Schools, (b) a true order of arrangement, and (c) the most useful classes of problems of each subject.

#### UNITED STATES HISTORY.

I. Early explorations and discoveries. European nations concerned in. Objects and results of explorations. Noted individuals, and places explored by each. II. Give the history of settlement of each of the original thirteen colonies, and the forms of government in each.

III. and IV. Discuss Indian difficulties in each colony. Important events in the history of each.

Note—Each member of the class should bring to a carefully prepared table from which to discuss lessons III. and IV.

V. Review of preceding lessons.

VI. Inter-Colonial Wars. (a) King William's war, (b) Queen Anne's war, (c) King George's war. Discussed after the following plan:

1. Origin. Time, place, cause.

2. Parties engaged.

3. Incidents.

4. Results.

VII. French and Indian war, discussed from the above outline.
VIII. Revolutionary war. (a) Causes, remote and immediate;
(b) Parties engaged; (c) Preliminary battles; (d) History of Declaration of Independence; (e) Action of Congress.

IX., X. and XI. Revolutionary war continued, following some well arranged plan of instructor, previously announced by him.

Nork.—One plan suggested is (1) to trace the movements of the army under Washington from the time be took command until the battle of Trenton. (2) Burgoyne's in asion and subsequent defeat; and the m vements of the army under Washington, until acknowledgment of independence by France. (:) Operations in the South during latter part of the war, closing with the surrender of Cornwallis at Yorktown. Or, if preferred, the following plan may be used: (1) Give the history of five distinguished generals of each party, with their marked excellencies and defects of character. (2 and 3) Give the history of ten important battles, after the following plan: (a) Time; (b) Place; (c) Incidents; (d) Results.

XII. Review of Revolutionary war. Results. Condition of the

country at its close.

XIII. (a) Acquisition of territory by the United States since the adoption of the constitution. (b) Amount paid for each, and an account of the treaty by which each was acquired. (c) Draw a map distributing the acquired territory into its appropriate parts.

XIV. (a) Name the Presidents, giving the date of inauguration and length of term. (b) Give the distinguishing event of each administration.

Note.—This lesson should be prepared in the same manner as indicated in lessons III. and IV.

XV. Give the history of the political parties of the United States, and the leading principles advocated by each party.

XVI. (a) Give the causes of the war of 1812 and the results of the war. (b) Give the causes of the Mexican war and results of the war.

XVII. (a) Causes of the civil war, remote and immediate. (b) Discuss the condition of the country and the situation of all our armies at the time of the battle of Gettysburg. (c) Prominent leaders (1) of Union armies, (2) of Rebel armies.

XVIII. Results of the war, and condition of the country at the close of the war.

XIX. Events during the administration subsequent to the civil war.

#### CONSTITUTION U. S .- FIRST AND SECOND GRADES.

I. Civil Government. Forms of government, six. Governments of the United States—State, Federal. Political maxims. Analysis of the articles of confederation: Defects of that instrument; origin of the constitution.

II. Branches of government—legislative, executive, judicial. Representative organization of each (1) in general government, (2) in state government, (3) in municipal government, (4) in school district government.

III. House of representatives: How composed; eligibility—age, citizenship, inhabitancy; Number of members; How apportioned; Enumeration—when made, how made; By whom elected; Classification of electors; When elected; How vacancies filled; House powers—legislative, inquisitorial, elective.

IV. Senate: 11ow composed; Eligibility—age, citizenship, inhabitancy; Senatorial term; By whom chosen; When chosen; 11ow classed—terms expiring second year, expiring fourth year, expiring sixth year; How vacancies filled—by legislature, by state executive; Vote; Presiding officer—vice president, president pro tempore, chief justice; Senate powers—executive, elective, judicial.

V and VI. Provisions common to both houses: Membership; Ineligibility—official incumbrance, disloyalty; Business quorum; Parliamentary rules; Yeas and nays; Journal-keeping, publishing; Penalties—punishment, expulsion; Prohibitions—adjournments, on members; Official oath; Salaries; Official privileges—from arrest, of debate.

VII. and VIII. Powers of congress: Finances, commerce, commercial, penalties, postal, patent and copyrights, war, judiciary, naturalization, territory, states, executive vacancy, appointments, constitutional amendments, slavery, general law-making, meeting.

. IX. Law-making: First process—action in congress, delivery to executive, executive signature; Second process—action in congress, delivery to executive, executive veto, reconsideration, approval by congress, method of voting, record of votes; Third process—action in congress, delivery to executive, executive neglect, effect of neglect; Orders, resolution and votes—action in congress, delivery to executive, executive veto, subsequent action.

X. Prohibitions on the United States: *Habeas corpus*—rebellion, invasion; Export duties; Inter-state commerce; Public money—drawing, published statement, for armies; Nobility; Penalties—bill of attainder, *ex-post-facto* law, attainder of treason; Foreign slave-trade; Repudiation—forbidden, enjoined; Freedom—religious, civil.

XI. Rights of states: Representation—house, senate; Privileges of citizenship; State amity; New states—by dismemberment, by junction; Election; Militia—militia officers, training militia; Federal protection—government, invasion, domestic violence; Fugitives—from justice, from service; Reservations—rights enumerated, powers not delegated.

XII. State subordination: State obligations—U. S. constitution, amendments; Supremacy of U. S. authority; Official oath—state legislators, state executives, state judicial officers. State prohibitions; State relations; Commercial—coining money, bills of credit, tender, contract obligations; War; Penalties—bill of attainder, ex-post-fucto law; Nobility; Duties—imports and exports, tonnage.

XIII. Personal rights: Domicile—in peace, in war; Searches and seizures; Judicial—indictment, second trial, life, liberty, and property, private property; Criminal actions—accusation, jury trial, witnesses, counsel, bail, fines, punishments; Civil actions—jury trial, second trial; Treason—what is conviction for.

XIV. Executive: In whom vested; Executive term; Eligibility—citizenship, age, residence; How elected—electors, house of representatives; Oath of office; How removable; Salary; Powers and duties—military, civil.

XV. Vice president; Eligibility; Election—in congress, in senate; Oath of office; Term; Powers and duties—president of the senate, acting president of the U.S.

XVI. Fifteen Amendments. Time and manner of their adoption. Substance of the amendments.

#### CONSTITUTION OF KANSAS.

Provisions for state government.

I. Executive.

II. Legislative.

III. Judicial.

 Educational provisions, and important features of the school system.

## PROFESSIONAL COURSE.

#### DIDACTICS.

Fighteen lessons in mental acience as related to diductics. The following lessons are designed to precede the more general science of teaching. The preparation required for each lesson should include, first, the definition of the topical terms and of all metaphysical terms in the onlines; second, a careful study of the subjects given, from observation, experience, and the reading of some text book on mental science. Definitions should embrace both the etymology of the terms and their psychological application. So far as practicable, the student should prepare the lessons in writen form, and illustrate each subdivision. Each lesson should be reviewed at the rectitation, following its first discussion. Those become are not arranged for the general student of mental science, nor to outline an exhaustive discussion of the subject as related to discussion. For the melitative, the opportunities of the students, and the objects of the melitatic, all rooder such a discussion impracticable. How not mentioned, is the primary aim of the institute. The instructor to properly present those lessons must be familiar with the subjects. Krauth and Fleming in Voccholary of the United Science Marish excellent definitions. Any good text books on mental science will afford all needed information. Hustrations are best when applied tresh from the instructor's own observation, or drawn from the students in class. A proper unfolding of the topica named must depend mainly upon the ability of the class to receive and of the teacher to impact a knowledge of this very important subject.

I. The Senses. (1) Physical organs for hearing, seeing, smelling, tasting, feeling. Their connection with the nervous system. (2) Facts concerning external objects which become known through each of the senses. (3) Cooperation of two or more senses. (4) Apparent substitution of one sense for another. Can the blind distinguish colors by feeling? (5) Organs of sense protected and strengthened. (6) Special application to care of the eyes in study. Position of lights in relation to book and eyes, etc.

II. Sensation. (1) Occasioned by external objects presented through the senses. (2) Occasioned by conditions of the body; as hunger, cold, etc. (3) Occasioned by conditions of mind; as fear, joy, etc. (4) Sensation the beginning of knowledge. (5) Sensations indicated by the countenance; as embarrassment by the blush, displeasure by the lip, joy in the lustre of the eye, etc. (6) No thought complete in sensation. (7) What facts in sensation aid the instructor in knowing his pupils? (8) May the pupils in like manner know the teacher?

III. Perception and Intuition. (1) Relation of sensation to perception. Illustration. The taste of ripe fruit may afford a pleasurable sensation. The recognition of the particular quality which affords the pleasure is an act of perception. (2) Several perceptions

may originate in what causes one sensation. (3) Perception limited to individual subjects of thought. (4) How the common qualities of several objects become known, also the different qualities. (5) Intuitions become known through this power to perceive; being, unity, plurality, axiomatic truths, etc. (6) Relation of perception to knowledge. Advantages of clearly defined thought, and how obtained. (7) Use of the question, "Do you see it?"

IV. Consciousness. (1) The test of all mental states. By this power we know sensation, perception, and even consciousness itself. (2) Difference in consciousness between sensation and perception. (3) Sensation without consciousness. (4) Consciousness and clear perceptions. Consciousness and vague impressions. (5) Consciousness affirms present mental operations only. Necessity for clear mental apprehension on any subject in order to a distinct response from consciousness. (6) Application to study by the pupil, and to instruction by the teacher. "Do I know?" and "how do I know?" "Does the student know?" "How shall I induce him to know?" are questions for both student and teacher to bring to the test of consciousness.

V. Attention. (1) How secured. Laws of attention as related to personal interests; to an individual purpose; to novelty; to enthusiastic study and instruction, etc. (2) Use of forms, slate exercises, diagrams, tabulated synopses, and other devices for presenting to the eye the facts to be learned. Proper use of object lessons. (3) A divided attention. Abuse of the object lesson system. Effect of too mary objects before the mind at one time, or in immediate succession. Effect of making the illustration more prominent than the principle illustrated. (4) Habits of attention and of inattention. (a) Methods of study which aid in forming habits of attention, and of inattention. Reading about one thing and thinking about another. Repeating lessons without thought.

VI. Memory. (1) Value of memory. Limit of knowledge without memory. (2) Memory to retain mental impressions, and to reproduce these impressions. (3) Relation of attention to the retentiveness of memory. (4) Relation of repetition to the reproductive power of memory. (5) Kind of memory; as verbal, an ability to recall words, names, dates, &c.; incidental, an ability to recall times, places, events, &c.; logical, an ability to recall thoughts in their order of relation to each other. (6) A verbal memory may reproduce a lesson with little knowledge of the subject-matter. An incidental memory commits the lesson with a diagram on a given page, or under some particular circumstances. A logical memory retains by the relations of kindred parts, and depends upon classification. A combination of these powers produces the most efficient memory.

VII. Memory. Continued. (1) Strength and kind of memory vary with age, education, vocation, etc. (2) Studies best adapted to the different stages of student life as related to memory. (3) Improvement of memory. (a) Degree of susceptibility. (b) Character of native ability to remember. (c) Correct methods of study. Study with and without attention as related to memory. (d) Effect of reading and thinking what is worth remembering, and the contrary. (e) Effect of reproducing in recitation or in written review the thoughts of any author studied. (4) How can the teacher apply the facts and principles relating to memory, in giving instruction?

VIII. ABSTRACTION AND CONCEPTION. (1) The mental action called abstraction. (2) The mental action called conception. (3) Abstraction in noting the parts and qualities common to several objects; also the parts and qualities in which the objects differ. (4) Individuals distinguished by differences. (5) Classes determined by points of agreement; genus, species, etc. (6) Abstraction and conception as related to analysis. synthesis and classification. (7) Principles of classification. (a) Relation of parts to the whole. (b) Relation of parts to each other. (c) Distinction of classes, as coördinate, subordinate, communicant etc. (8) Effect of complex and prolix systems of analysis. (a) Upon comprehension of the subject. (b) Upon memory.

IX. Reasoning. (1) Inductive and deductive defined. (2) The two processes combined in analysis and classification. (3) Correct reasoning dependent upon clear conceptions. (4) Difference between remembering and reasoning. (5) Difference between believing and reasoning. (6) How memory aids in reasoning. (7) Effect of reasoning from vague notions. (8) Effect of reasoning from notions known to be false. (9) Improvements of power to reason. (10) Use of the interrogative—Why?—in study and in instruction.

X. Imagination (1) Activity and strength vary in different persons, and at different ages of the same person. (2) Susceptible of control and improvement. (3) Imagination in painting, architecture, engineering, invention, etc. (4) Imagination in poetry, oratory, fiction, etc. (5) Relation between imagination and attention, abstraction, memory, reason. (6) Importance of right use of the imagination. (7) Contrast between an imagination furnished with well defined, pure, and truthful conceptions, and one supplied with vague, impure, and false notions. (8) Application of this subject: in the education of children, youth, and adult students.

XI. FAITH AND BELIEF. (1) Difference between faith and belief. (2) Faith in the parent, the teacher, the book, an element in education. (3) Faith and belief coöperate with reason in acquiring knowledge. (4) Faith properly used incites to knowledge. (5) Faith abused induces distrust and doubt. (6) Wise and unwise criticism

in giving instruction. (7) How should instruction be given to assure the student of his own ability to acquire, and of the teacher's ability to impart knowledge?

XII. Emotions. (1) Naturally strong in youth. (2) Illustrations: (a) Love of life. (b) Self regard. (c) Regard for friends. (d) Regard for country. (e) Regard for personal rights in general. (3) Love, fear, hate, indignation, jealousy, emulation, etc. (4) How emotions and passions influence the judgment. (5) Emotions affected by temperament, by home influences, by books read, by treatment in school. (6) Effect of proper and improper rivalry between pupils. (7) Necessity that the teacher should know the child's emotional nature. (8) What emotions incite to study? What to good, and what to bad behavior?

XIII. Moral Convictions. (1) Sense of justice. (a) Personal. (b) Among men. (2) Responsibility to rightful authority, and abhorrence of oppression. (3) General notion of right and wrong. Conscience. (4) Difference between an intelligent moral conviction, and prejudice. (5) Clearness and strength of moral convictions dependent upon mental peculiarities and education. (6) Coöperation of reason and an approving conscience. (7) How best to teach correct morals. Truth, honesty, respect for parents, regard for lawful authority, etc.

XIV. Influence of Habit. (1) Over the body; its movements, its demands for food, rest, stimulants, etc. (2) Over the mind; attention, memory, imagination, etc. (3) How habit facilitates the labor of both body and mind. (4) Habits formed early, and without the intention of the child. (5) Correct habits a tower of strength. (6) Bad habits a power to undermine and destroy the highest virtues. (7) Importance of forming correct habits—especially mental habits. (8) How shall the teacher aid the student in forming right habits, and in avoiding or overcoming wrong habits?

XV. Will. (1) Voluntary and involuntary action of the body. (2) Will power in selecting subjects for thought, in holding and directing attention. (3) Power to quicken the memory, and to direct the course of reasoning. (4) Power to restrain the emotions and passions, and to cherish or to repress moral convictions. (5) Strong will essential to any high attainment. (6) Difference between a strong will and stubbornness. (7) Influence of moral convictions on the will. (8) How may the will of the child be directed and properly strengthened?

XVI. Self Confrol. (1) A result of self knowledge. (2) Essential to proper self respect. (3) Essential to the proper direction of others. (4) Especially essential in the teacher. (a) Personal habits and deportment. (b) Temper, utterance, expression of countenance, etc. (5) Aids to self control in the school-room. (a) Knowledge of what is to be taught, and how to present each point. (b) Personal in-

terest in the school as a whole, and in each pupil. (c) Clear moral convictions on all questions of right between teacher and pupil, (6) Self knowledge the essence of all knowledge; and "he that ruleth his spirit is better than he that taketh a city." (7) How may students be governed so as to promote their self control?

XVII. LANGUAGE. (1) Means of communicating thought. (2) A record of thought. (3) An aid in elaborating thought. (4) Relation between clear mental operations and the expression of those operations. (5) Exact definitions, exact statement of principles, etc. (6) Relation between familiarity with the terms used, and attention to the thought expressed.

Note. - Students often waste time and energy in vain efforts to learn lessons expressed in words with which they are not acquainted.

(7) Relation between a free action of the mind, and a ready command of language. (8) Study of the best forms of expression as a means to intellectual improvement. (9) Use of repetition in lessons on spelling, reading, definitions, enunciation of theorems, in statement of rules, etc. (10) Effect of reading lessons for children expressed in childish phrases, and in ordinary colloquial forms. Children who are accustomed to correct language at home and in school need no false syntax to correct their vernacular.

XVIII. Review. (1) Requisites to reasoning. (a) Senses. (b) Sensation. (c) Perception. (d) Consciousness. (e) Attention. (f) Memory. (g) Abstraction. (h) Conception. (2) Reasoning. (3) Coneomitants in reasoning. (a) Imagination. (b) Faith and belief. (c) Emotions. (d) Moral convictions. (4) Essential to correct and efficient mental action. (a) Right habits. (b) Strong will. (c) Self control. (5) Essential to a proper development of mental powers. Language.

Norg.-The principles of instruction brought out with each lesson should be made prominent in the review.

#### SPECIAL DIDACTICS, OR METHODS.

[ It would be a dangerous error to suppose that every teacher should be left free to in-

The winn of a angerous error to suppose that every reacher sound to review on the vent his own methods, or could be expected to be successful without an acquaintance with the best methods in use.—Kiblic & Schem's Dictionery of Education and Instruction.

The course of besons following is intended merely to afford suggestion and opportunity for the discussion of important topics in such manner as may seem best to the instructor, as we "realize the principle that the most approved methods cannot benefit a teacher who has not mentally so appropriated them as to reproduce them according to his own individuality, and to be able to adapt them to the peculiar wants of his pupils, as well as to all the circum-stances in which he is placed."

1. Two General Methods of Investigation.—The inductive method is based upon the process of deriving general principles from an observation and comparison of individual facts. The deductive method begins with general principles, explains their meaning, and then shows how they are to be applied. Let these two methods be clearly illustrated and

contrasted by the use of numerous examples of argument.

11. The inductive, or developing system in education:-(1) History of the system from Herbart to the present. (2) Its practical rules are (a) to proceed from the concrete to the abstract, from perception to reflection in the pupil, from examples to rules, from facts to laws; (b) the teacher to be more a guide than a teacher, telling pupils noththing which they can be led to find out for themselves. (3) Its cardinal principle: The pupil is to be rendered his own teacher; his self-activity is to be fostered first, last, and at all times.

III. The relative merits of the developing system, and of the deductive system, (1) as means of mental training, (2) as means of instruction. The special reasons for the prominence of the first method in primary instruction; the value of the latter in advanced instruction.

IV. Reading. Theory of methods, with exposition of principles on which they are founded. Object method; word method; script method.

V. READING. Theory continued. Sentence method; phonic method; phonetic method.

VI. Reading. Practice under direction of instructor: Object method; word method; script method, including steps in changing from script to print.

VII. READING. Practice continued: Sentence method; phonic and phonetic methods. Reading in grammar grades.

VIII. Spelling. (1) Methods of study. (2) Methods of recitation, criticised on the following basis: Does it hold the attention of every pupil to the spelling of all the words? Does it correct errors? Does it require the subsequent attention of the pupil to errors? Merits of various forms of written and oral recitation.

IX. Writing. (1) In primary schools. (2) In grammar grades. Is there not an immense waste of time in this branch?

X. OBJECT TRACHING as the basis of composition, oral and with the pencil. Outline of lessons.

XI. Composition in grammar grades. Suggestions.

XII. The GRUBE METHOD, or some modification of it, outlined for a year's work. Practice.

XIII. GEOGRAPHY. Practice: Use of moulding board; map drawing.

XIV. Location and configuration (horizontal and vertical) as the cause of certain climatic conditions; climate as the cause of certain characteristics of vegetable and animal life; occupations, trade centers and customs, as determined by preceding conditions. Ought a teacher to know geography philosophically?

XV. HISTORY. (1) The teaching of local and political geography by means of historical association. (2) Methods of teaching history.

XVI. CONCERT TEACHING: What it is; value of it; limits of its use; tones of the voice; objections. Question and Answer: Limits of its use; how made effective; objections to the method; why abandoned?

XVII. TOPICAL METHOD. (1) Announcement of subject or topic for recitation: (a) Advantage of this form given at length. (b) Objections made and remedies suggested. (2) The use of diagrams and analyses: (a) Advantages illustrated. (b) Abuses of this form.

XVIII. THE ART OF QUESTIONING.

XIX. Is the work of the month applicable to country schools? Such discussion as may have been arranged for on preceding day.

#### SCHOOL ORGANIZATION AND MANAGEMENT.

I. The legal organization of a Kansas school district. Powers of the school district meeting. Powers and duties of the district board: (1) As to the length of the school term. (2) As to the care of school property. (3) As to the teacher. (4) As to subjects of instruction,

II. Frame a code of rules that should be adopted by a district board, defining (1) powers and duties of teachers, (2) the duties and privileges of pupils, (3) the rights and privileges of patrons, and (4) adopting a course of instruction, with regulations governing promotions from grade to grade, and the keeping of school records.

III. Frame and discuss a code of simple rules necessary to the handling of the school, providing for a daily programme of study and recitation, for assembling and dismissing school in due order, for moving classes and individuals to and from recitation, for consultation of reference books, etc.

IV. The first day's work in a district school. It is important that the teacher should have a well-defined plan of work. What shall it be as to opening exercises, assigning to classes, seating, tem-

porary programme, opening of records?

V. The last day's work in a district school. Its importance to the succeeding teacher, as showing: (1) The work of each pupil for the term just closing, in every study; (2) The teacher's recommendation as to where each pupil should begin the next term's work; (3) What exercises have been given to the several classes not indicated in the text books. Its importance to pupils, as showing to all pupils and classes what recognized standing they have at the opening of the next term: (1) By reading aloud the teacher's report to the district clerk, or (2) by statements of standing to individuals, or (3) by class rolls showing these facts. Its bearing on the vacation work of students not well up in all their classes, and of those who wish to secure advanced standing.

V1. A district school course of study—its objects and advantages; difficulties discussed and remedies suggested, especially as to the classifying of the older pupils, and the avoiding of multiplicity of classes.

VII. Promotions—upon what based? (1) Upon examinations at the close of any required outline of work; also (2) upon age, circumstances, and apparent latent capacity—how far? Outline a method of promotions that shall involve the action of the district board as well as the teacher, giving the essential features of the examination. and state the percentage that should probably be required on the same.

VIII. The school programme: Its essential features. Criticism of model programmes presented by members of the class.

IX. Recreation: Time and length of recesses; the control of children on the play ground; the teacher's relation to the amusements of children; what the teacher can do toward the introduction of pleasing and healthful exercise on the grounds; relief exercises in the school room, and their place in the programme.

X. The authority of the teacher, arising from his contract with the district board, reviewed. His authority, as implied in the duty to "teach and govern;" (1) As instructor, to demand attention, to insist on compliance with specific directions regarding the pupil's study, to classify the pupil, to require recitation in any form; (2) As manager of the school, to determine the order of proceeding in performing all the exercises of the school, to limit the freedom of pupils on the play ground and on the way to and from (?) school, and to guard the morals and guide the personal habits of pupils. Let other powers be named and discussed.

XI. The manner of using this authority in general: (1) The government of love, or personal influence; (2) The government of authority, the teacher acting as the agent of the law. In particulars: (1) Are formal rules advisable? If so, when should they be announced? Rules offered and criticised by members. (2) Distinguish between rules of order and rules of conduct, and the manner of treating offenses under them.

XII. How shall the school management teach self-control? form a healthful "public opinion" in the school?

#### [From Bain's Science of Education.]

1. Restraints should be as few as the situation admits of.

2. Duties and offenses should be definitely expressed, so as to be

clearly understood.

3. Voluntary dispositions are to be trusted as far as they can go.

4. By organization and arrangement, the occasions of disorder are

avoided.

5. The awe and influence of authority are maintained by a certain formality and state.

6. It is understood that authority, with all its appurtenances, exists for the benefit of the governed, and not as a perquisite of the governor.

7. The operation of mere vindictiveness should be curtailed to the utmost.

8. The reasons for repression and discipline should, as far as possible, be made intelligible to those concerned; and should be re.erable solely to the general good.

XIII. Punishments.—(1) For example: Is it justifiable to punish an offender, in a school of sixty, whom you would forgive were he your only pupil? Reasons for decision, and examples of such cases, if any. (2) For personal reformation: Illustrative cases given and discussed. (3) Reasonable means of punishment. It will be found profitable to have the members of the class name the various punishments they have known to be inflicted, and with these as a basis to discuss this important subject.

"The chief means of preventing the necessity of punishment are: (1) Active and pleasant employment, (2) the personal influence of the teacher, and (3) the public opinion of the school,"—Swett's Methods of

Teaching.

XIV. Morals,—(1) "The teacher's indirect tuition of manner, character, and example," should be emphasized in this lesson; (2) Formal lessons at stated times in the school exercises: how can they best be conducted? Examples of this work. (3) The influence of a careful discipline, training to habits of industry, truthfulness, obedience, order, regularity. (4) Personal and private conference with pupils.

XV. Manners.—The members to bring a statement of the etiquette of the school-room. The basis of good manners is kindly feeling: a simple and graceful expression of that feeling is the result of careful training by example and by formality. Outline of lessons and

drills that may profitably be given in the school.

XVI. On the use and abuse of marking systems: (1) On deportment; (2) On scholarship (a) in recitation, (b) in examination; (3) On attendance. The instructor should give for discussion a complete scheme of records. Evils of self-reporting systems.

XVII. The most common sources of disorder and insubordina-

tion: remedies suggested.

XVIII. Advantages of country schools, (1) in the personal infinence of the teacher, (2) in opportunities for individual instruction,

(3) in smaller classes, (4) in the association of pupils.

XIX. On the care of school property. Coöperation of district board and teacher in properly preparing house and grounds before school opens. Practical suggestions on ornamentation—pictures, flowers, walks, trees, plans for permanent school yard. What the boys can be induced to contribute toward pleasant surroundings. What the teacher can do to build up a public pride in the school.

#### PHYSIOLOGY.

[Five lessons illustrating methods of teaching the elements of human physiology, as applied in school hygiene. Various devices for increasing interest should be suggested as applied in colored progresses. Materials from the butcher shale, he meet to illustrate with the subject and ways of teaching. The proper use of charts, black-board drawings, etc., should be taught; and the functions should be illustrated by reference to common experiences.]

I. Outline of anatomy:—Bony and cartilaginous frame-work, showing relations of principal bones and ligaments. Muscular, vascular and adipose tissues of fleshy parts, in their various relations. Outer covering, or integument. Proper postures—standing, sitting, lying—for natural growth and health.

II. Cranial Cavity:—The brain; nerves of sense; spinal cord; nerves of motion and sensation. Effects of habit on nervous energy. Mental habits. Effects of excitement, of stimulants, of narcotics. Organs of sight and hegging. Care of eyes. Training of ears.

III. Thorax:—The lungs, and their action. Respiration, free and restrained; as affected by position, by tight clothing, by habit. The heart, arteries and veins. The two circulations, systemic and pulmonic. The blood; its relation to nutrition and waste. Effect of exercise on rapidity of circulation, and of good food on quality of blood. Relations of circulation and respiration. Effects of impurity or deficiency of air breathed. Necessary conditions of good ventilation. Asphyxia from carbonic acid, or from drowning; artificial respiration.

IV. Abdominal Cavity:—Organs of digestion, with their functions. Changes of food in transmission to the circulatory system. Hygiene of teeth; nutritious food; regular meal times; relation of digestion to violent physical or mental exertion.

V. Functions of the skin:—In perspiration, in absorption. Cleanliness; protection against drafts. Muscular development by exertion, by accurate training, by free motions. Strength, agility, dexterity.

#### NATURAL PHILOSOPHY.

[The five lessons given upon this subject are intended to illustrate both the topics taken up and methods of teaching them. The topics presented are for general guidance only, and may be dwelt upon more or less, as each instructor can best serve the purpose of the lessons. Of course no pupils should be admitted to the class without a previous knowledge of the subject. Especial care should be given to a study of clearness of statement, and to illustration, by drawing and devices for using common things for apparatus, to reach the eyes of pupils and awaken daily associations. Let the class also provide illustrations and suggest improvements.]

I. The properties of matter:—Cohesion, adhesion, elasticity, impenetrability, etc., all clearly illustrated. Force as exhibited in motion: momentum, inertia; centrifugal and centripetal forces, friction; the resultant of two or more forces; the division of forces.

II. Machines:—The lever in various forms and applications; the wedge; the pulley. Gravity:—Laws of falling bodies; common effects under these laws explained; the pendulum.

III. Hydrostatics and hydraulics:—Liquids at rest; pressure, from gravity and transmitted; the spirit level; fluids of different density in same vessel; the barometer. Fluids in motion; draught in chimney and ventilating shaft; pumps—suction, lifting, force; friction of liquids, in water pipes, streams.

IV. Wave propagation:—Sound; nature of vibrations; variations of intensity, of pitch of quality; various media and rates of transmission: reflection: resonance.

V. Light:—Radiation; transmission; varying intensity; reflection; refraction; diffusion; decomposition; comparison of sunlight with artificial light.

#### BOOK-KEEPING.

#### [Five lessons on how to teach.]

I. (1) Book-keeping defined and explained. (2) Books required for single entry. (3) Form and use of each book. (4) Age and advancement of pupils to study book-keeping with advantage.

II. How to teach, illustrated with black-board examples for the

form of entry in each book.

III. (1) Books and forms for double entry. Illustrations. (2) Age and advancement of pupils for successful study of double entry.

IV. Business forms. Bills, receipts, orders, checks, drafts, notes, contracts. etc.

V. Review.

#### GYMNASTICS.

Correct sitting and standing positions given as follows:

Sitting Position:—(1) Rest the feet fully on the floor, forming an angle of sixty degrees. (2) Sit (not lean) as far back in the seat as possible; supporting the lower part of the spine against the back of the chair. (3) Knees bent nearly at a right angle. (4) Body square to the front. (5) Chest expanded. (6) Hands fall easily in the lap, close to the body, little fingers downward. (7) Shoulders square. (8) Shoulder-blades flat. (9) Head erect; not tipped in either direction. (10) Chin slightly drawn in. (11) Raise the form to the full height. (12) Poise the body slightly forward. (13) Eyes straight to the front. (14) Ear, shoulder, and hip in line.

Standing Position:—(1) Heels in a line, and together. (2) Feet turned equally outward, forming an angle of sixty degrees. (3) Knees straight. (4) Body square to the front. (5) Chest expanded and advanced, but without constraint. (6) Arms hang easily down. (7) Shoulders equal height. (8) Shoulder-blades flat. (9) Head erect, raised at the crown, not tipped in any direction. (10) Chin slightly drawn in. (11) Form raised to the full height. (12) Body poised slightly forward, so that the weight bears mainly on the ball of the foot. (13) Eyes straight to the front. (14) Ear, shoulder, hip, knee, and ankle in a line. These positions should be assumed each day throughout the term.

I. Breathing, with arm movement. Standing position. First: Bring the tips of the fingers to the shoulders, inhaling the breath through the nostrils at the same time. Second: Strike downward and forward, clinching the first with palms front, and expelling the breath through the nostrils with the movement. The breath must be expelled by the action of the diaphragm and its auxiliary muscles of the waist and abdomen. This will naturally be the case if the pupil makes a decisive motion of the arms and clinches the fists.

II. Drill on work given preceding day. Exercise: Place the hands on the chest with the fore-fingers just below the collar-bones, fore-arms horizontal. Take a deep inspiration through the nostrils. Hold the breath. First: Strike on the chest percussive blows with the flat of the fingers, the wrists being slack, the fore-arm stiff. Time, four counts. Second: Give out the breath through the nostrils, two counts. Inhale a deep breath, two counts. Repeat from first movement. The blows must be light and gentle when the exercise is first given.

III. Thorough drill on previous work.

IV. Rapid review. New exercise. Standing position. Elbows sharply bent, and close to the side; fists clinched on chest. First: Throw the right fist down to the side and return to chest, two counts. Second: Repeat with left fist. Third: Clap hands three times and return to chest, four counts. Repeat from first movement, striking horizontally, sidewise, upward, and forward.

V. Review the exercise given the fourth day.

VI. Standing position. First: Raise the right hand to head as if to remove a hat. Second: Lower the hand, directing it outward and forward, at the same time incline the body and head toward the hand. Third: Raise the hand again to the head, as if to replace a hat, at the same time assuming an erect position. Fourth: Lower the hand to the side. Repeat from first movement, using the left hand—then both.

VII. Drill on work of preceding day until the movements are easy and natural.

VIII. Rapid review. Standing position. First: Arms extended horizontally forward, the middle fingers touching at the points, forming a graceful curve. Second: Raise the arms to an angle of forty-five degrees from the level of the shoulders. Third: Raise the arms, fingers touching, directly above the head. Fourth: Carry the arms, fingers touching, as far backward as possible, thumbs pointing to the rear, elbows pressed back, shoulders kept down, and head erect. Fifth: Extend the arms as straight and as far backward as possible, at an elevation of forty-five degrees. Sixth: Carry the arms backward and downward till they reach the level of the shoulders-Seventh: Continue the movement with straight arms half way downward, keeping the head crect and chest expanded. Eighth: Arms return gradually to their position at the side.

IX. Drill on all work given before.

X. Standing position. First: Right foot forward, and back to position. Second: Right foot forward at an angle of forty-five degrees—back to position. Third: Right foot sidewise—back to position. Fourth: Right foot backward at an angle of forty-five degrees—back to position. Fifth: Right foot straight backward, and back

to position. Sixth: Right foot backward on the left side at an angle of forty-five degrees—back to position. Seventh: Right foot at left of left foot. This movement is made by bringing the right in front of the left foot. Eighth: Right foot in front of the left foot, at an angle of forty-five degrees from the front. Repeat from first movement, using left foot instead of right. Repeat the movements alternating the feet on each movement.

XI. Review work of tenth day.

XII. Review in succession the exercises already given.

XIII. Standing position. Touch the shoulders lightly with the tips of the fingers, elbows at side. First: Bring the elbows forward in front of the body. Second: Lift the elbows as high as possible. Third: Throw the elbows back, the fingers still touching the shoulders. Fourth: Carry the elbows around to the commencing position, meanwhile expanding the chest.

XIV. Standing position. Carry the body forward by using the feet alternately in marching time.

XV. Review of all the exercises given-rapid and spirited.

XVI. Standing position. First: Bend forward and touch the floor with the finger tips, holding the knees perfectly rigid. Second: Clap the hands high above the head, while tipping the toes. This movement must be very rapid to be successful, and may be repeated eight times without serious fatigue at first.

XVII. Fingers clasped on top of head. First: Right elbow elevated, and hands clasped on left ear. Repeat four times. Second: Left elbow elevated, and hands clasped on right ear. Repeat four times. Alternate the movements. Lastly bring the clasped hands from one side of the head to the other four times.

XVIII. Review exercises already given.

XIX. Place the palm of the left hand against the side, close under the arm-pit. Bend the right arm directly above the head. Practice deep breathing while in this position.

XX. Review of month's work.

#### VALUABLE BOOKS FOR TEACHERS.

Note.—The conductor and instructors are, doubtless, familiar with many of these books, and will be able to advise teachers in the selection of works on any particular subject.

Abbott-Gentle Methods with Children.

Bain—Education as a Science.

Baldwin-Art of School Management.

Calkins-New Manual of Object Lessons.

Currie-Common School Education.

Fitch-Lectures on Teaching.

Gow-Morals and Manners.

Hailman-Lectures on Education.

Hill-The True Order of Studies.

Hughes-Attention, How to Gain, How to Retain.

Hughes-Mistakes of Teachers.

Kiddle & Schem-Dictionary of Education and Instruction.

Kiddle, Harrison & Calkins-IIow to Teach.

Ogden-Art of Teaching.

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Page-Theory and Practice of Teaching.

Payne, Joseph-Lectures on the Science and Art of Education.

Payne-School Supervision.

Quick-Essays on Educational Reformers.

Rosenkranz-Pedagogies as a System.

Russell-Normal Training.

Spencer-Education.

Spencer-Social Statics.

Spencer-Sociology.

Swett-Methods of Teaching.

Wickersham-Methods of Instruction.

Wickersham-School Economy.

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